EXCECUTIVE SUMMARY

The State Water Resources Control Board (State Water Board) has, by Order No. 2006-0003, required public agencies that own or operate sanitary sewer systems to develop and implement a Sewer System Management Plan (SSMP) aimed at reducing sanitary sewer overflows (SSOs). It has also required these agencies to report electronically all SSOs to the Board.

The SSMP must describe how the City of San Jose (City) constructs, manages, operates, and maintains its sanitary sewer system by addressing each of the 11 elements of the plan. These elements are summarized below:

1. Goals of the SSMP
2. Organization and Chain of Communications for SSMP
3. Legal Authority to Operate and Maintain Sewage Collection System
4. Sewer Collection System Operation & Maintenance Program
5. Sewer Collection System Design and Performance Provisions
6. Sewer Overflow Emergency Response Plan
7. Fats, Oil and Grease Control Program
8. Collection System Evaluation and Capacity Assurance Plan
9. Operation and Maintenance Monitoring, Management and Plan Modifications
10. SSMP Program Audits.
11. Communication Program with Public and Stake Holders

The following is a summary of the City's SSMP.

ELEMENT 1 - GOALS

The goals of the SSMP are to enable the City to achieve the following:

- Eliminate/minimize both dry weather and wet weather sanitary sewer overflows.
- Mitigate the impact of sanitary sewer overflows that do occur.
- Properly manage, operate and maintain all parts of the wastewater collection system.
- Provide adequate capacity to convey peak flows.

ELEMENT 2 - ORGANIZATION

The names and positions of staff responsible for developing and implementing the SSMP are as follows:

DOT	James R. Helmer, Director Joe Vafa, Senior Civil Engineer Philip Lee, Associate Engineer Robert Sgambati, Sewer Maintenance Superintendent
DPW	Katy Allen, Director Michael O'Connell, Division Manager Thuy Nguyen, Senior Civil Engineer Shelley Guo, Associate Engineer
ESD	John Stufflebean, Director John Mukhar, Senior Civil Engineer Stephen Lowes, Sanitary Engineer

ELEMENT 3 – LEGAL AUTHORITY

The City has the legal authority to construct, maintain, and operate its sanitary sewers as well as implement and enforce the requirements of the SSMP. The following principal documents provide the City with this authority:

- Chapter 15.14 of the SJMC; Ordinance 27626 describes sewer use regulations, including control of infiltration and inflow into the sewer system.
- Chapter 19.32 of the SJMC; Ordinance 26386 describes the installation, provisions for maintenance easements, testing, and inspection of new and rehabilitated sewers by developers and associated fees.
- Chapters 15.16 and 15.17 of the SJMC describe the sewer connection programs, procedures and fees.
- The City's Standard Specification and Standard Plans adopted in 1992 provide the required design and construction standards for new and rehabilitated sewers and sewer connections.

ELEMENT 4 – OPERATION & MAINTENANCE

The sanitary sewer collection system consists of approximately 2,200 miles of sewer pipes, 35,000 manholes, 16 pump stations, and other related infrastructure. The City operates and maintains the sanitary sewer system through a balanced Sanitary Sewer Maintenance Program that includes the following elements.

System Inventory and Mapping – The City's sanitary sewer collection system assets are fully inventoried in an Oracle Spatial database system that is able to provide full mapping capability and asset attribute descriptions. Updates to the data are made regularly in order to accurately reflect conditions in the field.

Preventive Operations and Maintenance – The City constantly monitors sanitary sewer blockages and other conditions that indicate the need for regular cleaning maintenance. Cleaning cycles are established and performed based on this assessment and can range from monthly to 15 years. Regularly scheduled maintenance is also performed on all pump stations.

Rehabilitation and Replacement – The City has a 5-year Sanitary Sewer Capital Improvement program designed to adequately manage system capacity and rehabilitate and replace infrastructure. The City's current 2008-2012 sewer capital program is approximately $100 million. Approximately $68 million is allocated for major interceptor and neighborhood collection system rehabilitation and replacement projects throughout the City.

Training – City staff responsible for maintaining the sewer system are thoroughly trained and experienced in performing the duties required to safely and effectively operate and maintain the sewer system. Employees are trained and certified to follow standard operating procedures for all sewer cleaning, repair and other maintenance functions. Employees are trained and required to hold special licenses and competency certifications in order to properly and safely operate vehicles and equipment. Employees are also rotated among different crews and sections to learn new skills and maintain existing skills.

Contingency Equipment & Replacement Inventories – The General Services Department works closely with the operations and maintenance staff to ensure vehicles are functioning properly and safely. Replacement equipment needs are evaluated annually and considered during the budget process.

Condition Assessment - The City is currently implementing a project to begin assessing the physical conditions of the sanitary sewer system. This assessment will be critical in identifying future system rehabilitation and replacement priorities and funding needs.

ELEMENT 5 – DESIGN AND PERFORMANCE PROVISIONS

The City utilizes industry standards as well as its own design, construction, and performance provisions for the installation of new sanitary sewer systems and the rehabilitation or repair of existing systems. These standards and provisions include, among other things, design procedures, construction standards, materials specifications, and a level of service policy that are necessary to have an effective sewer system. The following are the documents where these standards and provisions are found:

- San Jose Standard Specifications and Standard Details for Construction (1992)
- San Jose Design Guidelines for Sanitary Sewers (1991)
- San Jose Sanitary Sewer Design Procedures
- San Jose Sanitary Sewer Level of Service Policy (1982)
- Caltrans Standard Specifications

- National Public Works Standards (Greenbook)
- San Jose Construction Inspection Guidelines
- San Jose Material Testing Laboratory requirements

ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN

The City responds to sanitary sewer overflows and other sewer system emergencies according to a well established emergency response plan. This plan covers the necessary procedures and timeframes for properly handling an incident and mitigating its impacts, including:

1. Incident assessment
2. Personnel contact and deployment
3. Maintenance actions
4. Environmental impact mitigation measures
5. Public notification
6. Internal and interagency communications and reporting
7. On-going incident and system monitoring

ELEMENT 7 – FATS, OIL & GREASE (FOG) CONTROL

Fats, oils, and greases (FOG) are the primary reason for most sanitary sewer blockages. FOG are introduced into the sewer system from various sources, including residences, industrial businesses, and restaurants. The City has a FOG program that provides a balanced approach to address the problem, as summarized below:

Building Design and Construction Standards – The City requires that grease removal devices be installed in certain applications, such as restaurants. Procedures are in place to ensure this occurs during the plan review, permit issuance, and inspection processes.

Standard Restaurant Inspections – All restaurants and other food service facilities are regularly inspected to ensure grease production, collection, and disposal are occurring properly. Enforcement actions are taken against any restaurant that is not in compliance.

Sewer Pipe Investigations – Inspectors will investigate areas of concern where there is an indication that excess grease is accumulating to determine the source of FOG. If identified, appropriate actions are taken to eliminate the source.

Outreach – The City performs a number of outreach efforts to inform the public about the problems caused by FOG and how to reduce or eliminate them. This includes an informational insert in the garbage bill sent to every residential property during the fall, door hangers left by maintenance crews after maintenance has occurred in an area, brochures provided to restaurants and businesses, and occasional local media pieces.

ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

In 2002, the City initiated Phase 1 of a Sanitary Sewer Master Plan project and completed capacity assessments of the City's South, Central, and North Areas using the 2020 General Plan amended as of January 2003. Phase 2 of the plan was started in 2006 to complete the remaining East and West areas with additional flow monitoring data and recently approved land use policies and General Plan amendments.

The City's master plan takes advantage of new computer technologies and graphical data along with flow monitoring, rainfall data, and rainfall dependent infiltration and inflow analysis to develop proper hydraulic models and capacity needs. This information is combined with various land use planning scenarios to identify sewer system deficiencies and drive the Sanitary Sewer Capital Improvement Program Plan.

ELEMENT 9 – MONITORING, MANAGEMENT AND PLAN MODIFICATIONS

Monitoring, managing and modifying the SSMP are necessary to ensure its effectiveness. The City currently maintains and evaluates a number of performance indicators used to monitor and manage the SSMP as well as the Sanitary Sewer Maintenance program. Some of these indicators are listed below:

- Number of SSO per year
- % of sewer lines without obstructions
- % of blockages cleared within 4 hours
- % of repairs completed within established timeframes
- Miles of sanitary sewer lines cleaned
- Miles of sanitary sewer lines inspected

In addition, the City annually submits a SSO report to the Region 2 Water Board for their review.

ELEMENT 10 - SSMP PROGRAM AUDITS

The City has prepared a comprehensive approach to annually evaluate the effectiveness of each element of the SSMP and will continue to work with other agencies throughout the Bay Area to identify and implement best management practices through the SSMP.

ELEMENT 11 – COMMUNICATIONS PROGRAM

The City has performed effective communications and outreach to the public, stakeholders, satellite agencies on the development, implementation and performance of the SSMP. These efforts are described below:

Satellite Agencies - The City is, has and will continue to facilitate regular meetings to work with the neighboring agencies on subjects such as future improvements to SSMP, master plan, capacity issues, emergency response plans, and capital programs.

General Public - A link on the City's website was provided to encourage review and comment on the SSMP sections as it was developed. A contact is also provided on the website for direct communications and discussions.

Land Developers, Consulting Engineers, and Contractors – Information was disseminated about the SSMP in meetings and by flyers as part of the usual business engagement.